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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,580	04/09/2004	Hironori Okado	TAYU.005AUS	1898
20995	7590	09/07/2005		
KNOBBE MARTENS OLSON & BEAR LLP 2040 MAIN STREET FOURTEENTH FLOOR IRVINE, CA 92614			EXAMINER LE, HOANGANH T	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/821,580

Applicant(s)

OKADO, HIRONORI

Examiner

HoangAnh T. Le

Art Unit

2821



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

HoangAnh Le  
Primary Examiner

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 4/9/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

### DETAILED ACTION

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,2, and 7-13 are rejected under 35 U.S.C. 102(e) as being anticipated by Flint et al (the US Patent No. 6,686,886).

The Flint et al reference teaches in figure 14 a diversity antenna apparatus comprising: a plurality of antenna elements 1301-1303 disposed on a substrate; and a ground pattern formed in or on the substrate, the ground pattern 1401 functioning together with each of the antenna elements; wherein the ground pattern is formed at a central region of the substrate with a gap from each of the antenna elements, and wherein the antenna elements are disposed along outer edges of the substrate and/or the ground pattern so as to surround the ground pattern. The antenna elements are disposed with mutual gaps that are not smaller than one quarter of a wavelength associated with a resonant frequency (figure 14). The antenna element dedicated for transmitting

functions as a vertically polarized antenna. The ground pattern comprises a first region that functions as a ground for the antenna element dedicated for transmitting and a second region that functions as a ground for the antenna element dedicated for receiving. The first region extends in a vertical direction.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-4, 14-17, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flint et al (cited above) in view of Mandai et al (the US Patent No. 5,909,198).

The Flint et al reference teaches every feature of the claimed invention, excluding the antenna being chip antenna.

The Mandai et al reference teaches in figure 1 the use of a chip antenna in order to suppress a gain reduction and a shift of the center frequency. (col. 1, lines 33-35)

Since one of ordinary skill in the art would recognize the benefit of suppressing the gain reduction of the antenna, it would have been obvious to provide Flint et al with chip antenna element as taught by Mandai et al.

6. Claims 5-6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flint et al in view of Mandai et al as applied to claims 3-4,14-17 and 19-20 above, and further in view of Takaya et al (the US Patent No. 6,808,642).

Flint et al and Mandai et al teach every feature of the claimed invention, excluding a hybrid layer.

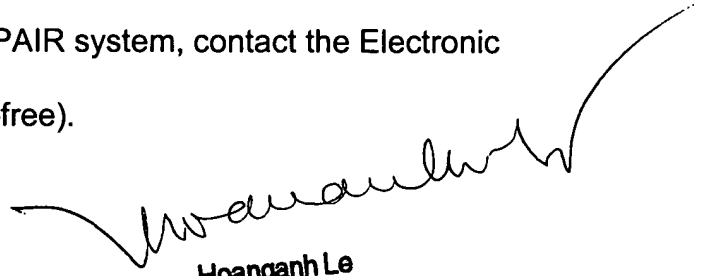
The Takaya et al reference teaches in figure 4 a substrate being composed of a lamination of a hybrid layer including the hybrid pattern, a connecting layer including a connecting pattern for connecting the hybrid pattern to an external port, and a ground layer including the ground pattern, and wherein the ground pattern is arranged between the hybrid layer and the connecting layer to form a microstrip-line structure in order to improve the characteristics of the antenna.

Since one of ordinary skill in the art would recognize the benefit of improving the characteristics of the antenna, it would have been obvious to provide Flint et al / Mandai et al with the substrate being composed of a lamination of a hybrid layer including the hybrid pattern as taught by Takaya et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HoangAnh T. Le whose telephone number is (571) 272-1823. The examiner can normally be reached on 8:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hoanganh Le  
Primary Examiner